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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,277	08/22/2006	Kenji Hasegawa	043887-0202	6004
53080 7590 06/18/2009 MCDERMOTT WILL & EMERY LLP 600 13TH STREET, NW WASHINGTON, DC 20005-3096				
EXAMINER				
NGUYEN, COLETTE B				
ART UNIT		PAPER NUMBER		
1793				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/590,277

Applicant(s)

HASEGAWA ET AL.

Examiner

COLETTE NGUYEN

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-9 and 11-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 and 15 is/are allowed.
- 6) ☒ Claim(s) 2-7, 9, 11-14 and 16 is/are rejected.
- 7) ☒ Claim(s) 3 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/003)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date \_\_\_\_\_
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Status of the application***

*Claim 1 and 10 are cancelled. Claims 2-9 and 11-16 are presented for examination.*

### ***Claims Objections***

1. Claim 7 is objected to as the sentence has twelve words of "said" and it is grammatically un-comprehensible. Respectfully request the claim rewritten.
2. Claim 11 is objected to as it is grammatically too long as a sentence. Respectfully request to have the claim rewritten.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 3 and 12 recites the limitation "member" in "by a valve opening and closing member". There is insufficient antecedent basis for this limitation in the claim. The examiner will interpret as any device or sensor that can initiate the opening and closing of the valve.

***Claim Rejections - 35 USC § 102/103***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claim 2-7, 11-14** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Prased et al (US2003/0138679).

5. **Regarding claim 2.** Prased (679) discloses a design of a fuel cartridge or fuel tank that is detachable, i.e. can be removable from the system of the fuel cell with self-sealing inlet/outlet connector arrangement seals which allow to control fuel to flow thru a flow path with open and close valve. The tank has a fuel injecting portion (Fig 4, spring 120 and pusher 122), a flow path (108) with shut off valve (126). As for configuration

and shape, depend on the host device, the fuel tank can be vary. It would have been obvious for one of ordinary skill in the art at the time of the invention to modify the teachings of Prased and adapt it to the host device. (fig 1-5 and para 19-35).

6. Regarding claims 3-5, 12,13. Prased discloses the control sequences of shut-off valve 126 using back pressure of the reaction chamber 104 and the porous structure 128, which are the equivalent of the claimed valve opening and closing member. (para 32). Prased does not teach the use of a handle; however he discloses how the system is connected together so fuel can be controlled automatically. The handle as claimed is one of the self-sealing inlet/outlet connector arrangement that prevent leakage as pointed out by Prased in para 35.

7. Regarding claim 6. Prased teaches a housing 112, the equivalent of the claimed casing 110. He does not teach a shutter configured in an opening portion. However, it would have been obvious for one of ordinary skill in the art at the time of the invention to provide a shutter as a positive guide for alignment and indication of positive engagement and connection.

8. Regarding claim 7. Prased teaches the control of the fuel cartridge as claimed. para 35.

9. Regarding claim 11. Prased (679) discloses a fuel cell wherein the fuel cartridge or fuel tank can be detachable, i.e. or removable from the system of the fuel cell with self-sealing inlet/outlet connector arrangement seals which allow to control fuel to flow thru a flow path with open and close valve. The tank has a fuel injecting portion (Fig 4, spring 120 and pusher 122), a flow path (108) with shut off valve (126). As for

configuration and shape, depend on the host device, the fuel tank can be vary. It would have been obvious for one of ordinary skill in the art at the time of the invention to modify the teachings of Prased and adapt it to the host device. (fig 1-5 and para 19-35).

10. Regarding claim 14, Prased disclosed self sealing inlet/outlet connector which encompass the claimed lock mechanism. Para 35

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prased as applied to claim 2 and 11 above, in view of Kazunori et al (JP2004-192171) Prased discloses a fuel tank used in a fuel cell wherein shut off valves are used to control the flow of fuel automatically. He does not specify electromagnetic valves. Kazunori (171) specify the use of electromagnetic valves as shut-off valves to control the fuel from the fuel cartridge in a fuel cell.(para 18, fuel valves24). It would have been obvious for one of ordinary skill in the art at the time of the invention to use the electromagnetic valves of Kazunori with the teaching of Prased of the fuel tank so the control can be automatic.

***Allowable Subject Matter***

15. Claims 8 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is an examiner's statement of reasons for allowance: Claims 8 and 15 recite a limitation of the fuel tank which has a portion of the tank made of material which is deformable or changing shape in accordance with a reduction of the contents

to keep the pressure balance. The prior arts by themselves or in combination would not be make the claim obvious nor anticipated/.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Claims 2-7, 9, 11-14 and 16 are rejected. Claims 8 and 15 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to COLETTE NGUYEN whose telephone number is (571)270-5831. The examiner can normally be reached on Monday-Thursday, 10:00-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Mayes can be reached on (571)-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should



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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/COLETTE NGUYEN/  
Examiner, Art Unit 1793

CN  
June 16, 2009

/Melvin Curtis Mayes/  
Supervisory Patent Examiner, Art Unit 1793